



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2022-1163; Project Identifier MCAI-2022-00571-T]

RIN 2120-AA64

Airworthiness Directives; Embraer S.A. (Type Certificate Previously Held by Yaborã Indústria Aeronáutica S.A.; Embraer S.A.) Airplanes

AGENCY: Federal Aviation Administration (FAA), DOT.

ACTION: Supplemental notice of proposed rulemaking (SNPRM).

SUMMARY: The FAA is revising a notice of proposed rulemaking (NPRM) that would have applied to certain Embraer S.A. Model ERJ 170 airplanes. This action revises the NPRM by adding airplanes to the applicability. The FAA is proposing this airworthiness directive (AD) to address the unsafe condition on these products. Since these actions would impose an additional burden over those in the NPRM, the FAA is requesting comments on this SNPRM.

DATES: The FAA must receive comments on this SNPRM by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES: You may send comments, using the procedures found in 14 CFR 11.43 and 11.45, by any of the following methods:

- Federal eRulemaking Portal: Go to [regulations.gov](https://www.regulations.gov). Follow the instructions for submitting comments.
- Fax: 202-493-2251.
- Mail: U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

- Hand Delivery: Deliver to Mail address above between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays.

AD Docket: You may examine the AD docket at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2022-1163; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday through Friday, except Federal holidays. The AD docket contains the NPRM, this SNPRM, the mandatory continuing airworthiness information (MCAI), any comments received, and other information. The street address for Docket Operations is listed above.

Material Incorporated by Reference:

- For material that is proposed for incorporation by reference in this SNPRM, contact National Civil Aviation Agency (ANAC), Aeronautical Products Certification Branch (GGCP), Rua Dr. Orlando Feirabend Filho, 230 – Centro Empresarial Aquarius – Torre B – Andares 14 a 18, Parque Residencial Aquarius, CEP 12.246-190 – São José dos Campos – SP, Brazil; telephone 55 (12) 3203-6600; email pac@anac.gov.br; website anac.gov.br/en/. You may find this material on the ANAC website at sistemas.anac.gov.br/certificacao/DA/DAE.asp. It is also available at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2022-1163.

- You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

FOR FURTHER INFORMATION CONTACT: Hassan M. Ibrahim, Aerospace Engineer, Large Aircraft Section, FAA, International Validation Branch, 2200 South 216th St., Des Moines, WA 98198; telephone 206-231-3653; email Hassan.M.Ibrahim@faa.gov.

SUPPLEMENTARY INFORMATION:

Comments Invited

The FAA invites you to send any written relevant data, views, or arguments about this proposal. Send your comments to an address listed under ADDRESSES. Include “Docket No. FAA-2022-1163; Project Identifier MCAI-2022-00571-T” at the beginning of your comments. The most helpful comments reference a specific portion of the proposal, explain the reason for any recommended change, and include supporting data. The FAA will consider all comments received by the closing date and may amend this proposal because of those comments.

Except for Confidential Business Information (CBI) as described in the following paragraph, and other information as described in 14 CFR 11.35, the FAA will post all comments received, without change, to regulations.gov, including any personal information you provide. The agency will also post a report summarizing each substantive verbal contact received about this SNPRM.

Confidential Business Information

CBI is commercial or financial information that is both customarily and actually treated as private by its owner. Under the Freedom of Information Act (FOIA) (5 U.S.C. 552), CBI is exempt from public disclosure. If your comments responsive to this SNPRM contain commercial or financial information that is customarily treated as private, that you actually treat as private, and that is relevant or responsive to this SNPRM, it is important that you clearly designate the submitted comments as CBI. Please mark each page of your submission containing CBI as “PROPIN.” The FAA will treat such marked submissions as confidential under the FOIA, and they will not be placed in the public docket of this SNPRM. Submissions containing CBI should be sent to Hassan M. Ibrahim, Aerospace Engineer, Large Aircraft Section, FAA, International Validation Branch, 2200 South 216th St., Des Moines, WA 98198; telephone 206-231-3653; email

Hassan.M.Ibrahim@faa.gov. Any commentary that the FAA receives which is not specifically designated as CBI will be placed in the public docket for this rulemaking.

Background

The FAA issued an NPRM to amend 14 CFR part 39 by adding an AD that would apply to certain Embraer S.A. Model ERJ 170 airplanes. The NPRM published in the *Federal Register* on September 15, 2022 (87 FR 56598). The NPRM was prompted by AD 2022-04-01, effective April 29, 2022 (ANAC AD 2022-04-01), issued by ANAC, which is the aviation authority for Brazil. ANAC AD 2022-04-01 states that certain flight control electrical harnesses were routed incorrectly, providing inadequate separation from other electrical harness installations.

In the NPRM, the FAA proposed to require an inspection of certain flight control electrical harnesses for incorrect routing, and modifying any incorrect electrical harness installations.

Actions Since the NPRM was Issued

Since the FAA issued the NPRM, ANAC superseded ANAC AD 2022-04-01 and issued ANAC AD 2022-04-01R1, effective October 31, 2022 (ANAC AD 2022-04-01R1) (also referred to as the MCAI), to correct an unsafe condition for certain Embraer S.A. Model ERJ 170 airplanes. ANAC AD 2022-04-01R1 has a revised applicability that includes additional serial numbers. The MCAI states that certain flight control electrical harnesses were routed incorrectly, providing inadequate separation from other electrical harness installations.

The FAA is proposing this AD to address incorrect routing of flight control electrical harnesses near critical fuel quantity indication harnesses, which could possibly result in fuel tank ignition and subsequent loss of the airplane.

You may examine the MCAI in the AD docket at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2022-1163.

Comments

The FAA received comments from four commenters, including Embraer, Horizon Air, Republic Airways, and SkyWest Airlines. The following presents the comments received on the NPRM and the FAA's response to each comment.

Request to Withdraw the Proposed AD

Embraer requested that the proposed AD be withdrawn because ANAC AD 2022-04-01R1, effective October 31, 2022, has superseded AD 2022-04-01, effective April 29, 2022, to revise the applicability. Embraer suggested that the FAA could withdraw the proposed AD or issue a new proposed AD to avoid the need for a new FAA AD to include the additional airplanes.

The FAA updated the applicability to match ANAC AD 2022-04-01R1. However, the FAA is not withdrawing the NPRM, but is instead issuing this SNPRM to include the new applicability. This proposed AD has been revised to reference ANAC AD 2022-04-01R1 throughout.

Request to Revise Compliance Time

Republic Airways and SkyWest Airlines requested that the compliance time be changed. Republic requested a change to three years to align with the heavy maintenance schedule and noted that certain parts of the service information require inspecting an area that is difficult to access due to the proximity of the 195 aft wing-to-fuselage fairing (WTFF), which is removed during heavy maintenance. SkyWest requested a change to 10,000 flight hours or 60 months to align with the recommended compliance time specified in the service information referenced in ANAC AD 2022-04-01.

The FAA disagrees with the commenters' requests to revise the compliance time. ANAC, as the state of design authority, conducted a safety analysis and determined that a 12-month compliance time is appropriate to mitigate the identified unsafe condition. The FAA concurs with ANAC's assessment. However, under the provisions specified in

paragraph (i)(1) of this AD, operators may request an alternative method of compliance (AMOC) to use a different compliance time. This proposed AD has not been changed with regard to these requests.

Request to Revise Exceptions Paragraph

Horizon Air commenter requested that the exceptions in paragraph (h)(2) of the proposed AD be limited to paragraph (b) of ANAC AD 2022-04-01, instead of the entire “Alternative methods of compliance (AMOC)” section. The commenter stated that ANAC AD 2022-04-01 paragraphs (c), (c)(1), and (c)(2) clarify that only steps labeled Required for Compliance (RC) must be done to comply with the AD, and that excepting paragraphs (c), (c)(1), and (c)(2) would unnecessarily mandate steps that are not required to correct the unsafe condition.

The FAA agrees with the commenter’s request for the reasons provided and notes that the service information referenced in ANAC AD 2022-04-01R1 contains steps labeled RC. However, in ANAC AD 2022-04-01R1, the corresponding paragraph not required by this proposed AD is now labeled paragraph (c), while the paragraphs explaining RC service information are in paragraphs (d), (d)(1), and (d)(2) of ANAC AD 2022-04-01R1. Therefore, paragraph (h)(2) of this proposed AD has been revised to refer only to paragraph (c) of ANAC AD 2022-04-01R1.

Related Service Information under 1 CFR Part 51

ANAC AD 2022-04-01R1 specifies procedures for inspecting the installation of flight control electrical harnesses W126 and W127 for incorrect routing and modifying any incorrect electrical harness installations. This material is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in ADDRESSES.

FAA’s Determination

This product has been approved by the aviation authority of another country and is approved for operation in the United States. Pursuant to the FAA's bilateral agreement with the State of Design Authority, it has notified the FAA of the unsafe condition described in the MCAI described above. The FAA is issuing this SNPRM after determining that the unsafe condition described previously is likely to exist or develop in other products of the same type design.

Certain changes described above expand the scope of the NPRM. As a result, it is necessary to reopen the comment period to provide additional opportunity for the public to comment on this SNPRM.

Proposed AD Requirements in this SNPRM

This proposed AD would require accomplishing the actions specified in ANAC AD 2022-04-01R1 described previously, except for any differences identified as exceptions in the regulatory text of this proposed AD.

Explanation of Required Compliance Information

In the FAA's ongoing efforts to improve the efficiency of the AD process, the FAA developed a process to use some civil aviation authority (CAA) ADs as the primary source of information for compliance with requirements for corresponding FAA ADs. The FAA has been coordinating this process with manufacturers and CAAs. As a result, the FAA proposes to incorporate ANAC AD 2022-04-01R1 by reference in the FAA final rule. This proposed AD would, therefore, require compliance with ANAC AD 2022-04-01R1 in its entirety through that incorporation, except for any differences identified as exceptions in the regulatory text of this proposed AD. Service information required by ANAC AD 2022-04-01R1 for compliance will be available at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2022-1163 after the FAA final rule is published.

Costs of Compliance

The FAA estimates that this AD, if adopted as proposed, would affect 701 airplanes of U.S. registry. The FAA estimates the following costs to comply with this proposed AD:

Estimated costs for required actions

Labor cost	Parts cost	Cost per product	Cost on U.S. operators
3 work-hours X \$85 per hour = \$255	\$0	\$255	\$178,755

The FAA estimates the following costs to do any necessary on-condition actions that would be required based on the results of any required actions. The FAA has no way of determining the number of aircraft that might need these on-condition actions:

Estimated costs of on-condition actions

Labor cost	Parts cost	Cost per product
5 work-hours X \$85 per hour = \$425	\$0	\$425

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

The FAA determined that this proposed AD would not have federalism implications under Executive Order 13132. This proposed AD would not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify this proposed regulation:

- (1) Is not a “significant regulatory action” under Executive Order 12866,
- (2) Would not affect intrastate aviation in Alaska, and
- (3) Would not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Proposed Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA proposes to amend 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

- 1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

- 2. The FAA amends § 39.13 by adding the following new airworthiness directive:

Embraer S.A. (Type Certificate Previously Held by Yaborã Indústria Aeronáutica S.A.; Embraer S.A.): Docket No. FAA-2022-1163; Project Identifier MCAI-2022-00571-T.

(a) Comments Due Date

The FAA must receive comments on this airworthiness directive (AD) by [INSERT DATE 45 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to Embraer S.A. (Type Certificate previously held by Yaborã Indústria Aeronáutica S.A.; Embraer S.A.) Model ERJ 170-100 LR, -100 STD, -100 SE, and -100 SU airplanes; and Model ERJ 170-200 LR, -200 SU, -200 STD, and -200 LL airplanes, certificated in any category, as identified in Agência Nacional de Aviação Civil (ANAC) AD 2022-04-01R1, effective October 31, 2022 (ANAC AD 2022-04-01R1).

(d) Subject

Air Transport Association (ATA) of America Code 27, Flight controls.

(e) Unsafe Condition

This AD was prompted by reports indicating that certain flight control electrical harnesses were routed incorrectly, providing inadequate separation from other electrical harness installations. The FAA is issuing this AD to address the incorrect routing of flight control electrical harnesses near critical fuel quantity indication harnesses, which could possibly result in fuel tank ignition and subsequent loss of the airplane.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Requirements

Except as specified in paragraph (h) of this AD: Comply with all required actions and compliance times specified in, and in accordance with, ANAC AD 2022-04-01R1.

(h) Exceptions to ANAC AD 2022-04-01R1

(1) Where ANAC AD 2022-04-01R1 refers to April 29, 2022 (the effective date of ANAC AD 2022-04-01), this AD requires using the effective date of this AD.

(2) Where ANAC AD 2022-04-01R1 refers to its effective date, this AD requires using the effective date of this AD.

(3) Where ANAC AD 2022-04-01R1 refers to August 3, 2022 (the Revision 02 date of Embraer Service Bulletin), the correct date is August 5, 2022.

(4) Paragraph (c) of ANAC AD 2022-04-01R1 does not apply to this AD.

(i) Additional AD Provisions

The following provisions also apply to this AD:

(1) *Alternative Methods of Compliance (AMOCs)*: The Manager, International Validation Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or responsible Flight Standards Office, as appropriate. If sending information directly to the International Validation Branch, send it to the attention of the person identified in paragraph (j) of this AD. Information may be emailed to: 9-AVS-AIR-730-AMOC@faa.gov. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the responsible Flight Standards Office.

(2) *Contacting the Manufacturer*: For any requirement in this AD to obtain instructions from a manufacturer, the instructions must be accomplished using a method approved by the Manager, International Validation Branch, FAA; or ANAC; or ANAC's authorized Designee. If approved by the ANAC Designee, the approval must include the Designee's authorized signature.

(3) *Required for Compliance (RC)*: Except as specified by paragraph (i)(2) of this AD: if any service information contains steps that are labeled as RC, the provisions of paragraphs (j)(3)(i) and (ii) of this AD apply.

(i) The steps labeled as RC, including substeps under an RC step and any figures identified in an RC step, must be done to comply with the AD. If a step or substep is labeled “RC Exempt,” then the RC requirement is removed from that step or substep. An AMOC is required for any deviations to RC steps, including substeps and identified figures.

(ii) Steps not labeled as RC may be deviated from using accepted methods in accordance with the operator’s maintenance or inspection program without obtaining approval of an AMOC, provided the RC steps, including substeps and identified figures, can still be done as specified, and the airplane can be put back in an airworthy condition.

(j) Additional Information

For more information about this AD, contact Hassan M. Ibrahim, Aerospace Engineer, Large Aircraft Section, FAA, International Validation Branch, 2200 South 216th St., Des Moines, WA 98198; telephone 206-231-3653; email Hassan.M.Ibrahim@faa.gov.

(k) Material Incorporated by Reference

(1) The Director of the Federal Register approved the incorporation by reference (IBR) of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless this AD specifies otherwise.

(i) Agência Nacional de Aviação Civil (ANAC) AD 2022-04-01R1, effective October 31, 2022.

(ii) [Reserved]

(3) For ANAC AD 2022-04-01, contact National Civil Aviation Agency (ANAC), Aeronautical Products Certification Branch (GGCP), Rua Dr. Orlando Feirabend Filho, 230 – Centro Empresarial Aquarius – Torre B – Andares 14 a 18, Parque Residencial Aquarius, CEP 12.246-190 – São José dos Campos – SP, Brazil; telephone 55 (12) 3203-6600; email pac@anac.gov.br; website anac.gov.br/en/. You may find this ANAC AD on the ANAC website at sistemas.anac.gov.br/certificacao/DA/DAE.asp.

(4) You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, email fr.inspection@nara.gov, or go to: www.archives.gov/federal-register/cfr/ibr-locations.html.

Issued on February 16, 2023.

Christina Underwood, Acting Director,
Compliance & Airworthiness Division,
Aircraft Certification Service.

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